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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,552	11/19/2003	Jinlian Hu	007198-556	5057

21839 7590 09/30/2005

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EXAMINER

SERGEANT, RABON A

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,552

Applicant(s)

HU ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/19/03, 5/16/05</u> | 6) <input type="checkbox"/> Other: ____ |

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1. Claims 6, 8, 9, and 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within claim 6, hexamethylene diisocyanate is not aromatic.

With respect to claim 8, it is unclear what is meant by "bisphenol-A+propylene oxide". The language does not conform to art-recognized terminology.

With respect to claim 9, the Markush group is improper, because the species have not been recited in the alternative.

Within claim 14, applicants have failed to specify a basis for the claimed weight percent.

2. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have equated the term glass transition to melting temperature within the claims and specification; however, the terms are not equivalent. Melting temperatures are higher than glass transition temperatures and denote a change from the solid state to the liquid state, whereas glass transition temperatures denote a change from the vitreous or glassy state to the plastic state. Furthermore, it is not seen how physical properties such as tensile modulus can be measured or even assumed to exist for liquid materials (those above the melting point).

3. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in

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the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicants have failed to provide enablement for polymers having melting temperatures over the disclosed and claimed range of -30 to 80°C. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

4. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicants have failed to provide enablement for reaction systems wherein the chain extender lacks a carboxylic acid group. It is clear from applicants' disclosure that the purpose of the neutralizer is to convert the carboxylic acid group into an anionic group, and this is the only function that the neutralizer would perform in the context of the invention; however, applicants' claims are not so limited. The neutralizer is not seen to have any material effect on a chain extender that lacks the carboxylic acid group.

Furthermore, applicants have failed to provide adequate enablement for the production of polyurethanes having the properties set forth within claims 19-22. Applicants' specification provides no clear teachings with respect to the ratio of reactants, the selection of appropriate reactants, or other conditions that must be adhered to in order to obtain polyurethanes having the claimed properties. One could not practice the invention without resorting to undue experimentation. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-12 and 14-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ramanathan et al. ('213).

Patentees disclose the production of polyurethane aqueous dispersions, wherein a prepolymer is produced in the presence of solvent from diisocyanates, polyols and chain extenders that correspond to applicants' claimed components. After formation of the prepolymer, the acid groups resulting from incorporation of the chain extender are neutralized with an amine, such as triethylamine. The neutralized prepolymer is then dispersed in water and the solvent is removed. Furthermore, applicants' claimed ratios and reaction conditions are disclosed within the reference. See column 2, lines 45+ and columns 3-5. Furthermore, since the disclosed polyurethanes are produced from reactants that meet those claimed, applicants' claimed physical properties are considered to be inherently possessed by the disclosed polyurethanes.

7. Claims 1-13 and 18-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Klauck et al. ('433).


Patentees disclose the production of polyurethane aqueous dispersions, wherein a solventless prepolymer is produced from diisocyanates, polyols and chain extenders that correspond to applicants' claimed components. After formation of the prepolymer, the acid groups resulting from incorporation of the chain extender are neutralized with an amine. The

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neutralized prepolymer is then dispersed in water. Furthermore, applicants' claimed ratios and reaction conditions are disclosed within the reference. See abstract and columns 3-10.

Furthermore, since the disclosed polyurethanes are produced from reactants that meet those claimed, applicants' claimed physical properties are considered to be inherently possessed by the disclosed polyurethanes.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.


RABON SERGENT
PRIMARY EXAMINER

R. Sergent
September 27, 2005